

Surface Mount Zener Diodes

(Pb) Lead(Pb)-Free

Features:

- *500mw Power Dissipation
- *General Purpose
- *Ideal for Surface Mountted Application

Mechanical Data:

- *Case : MICRO-MELF Glass Case
- *Weight : Approx 0.01g

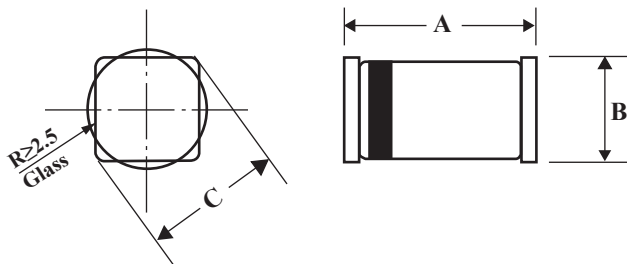
**SMALL SIGNAL
ZENER DIODES
0.5 WATTS**



MICRO-MELF

MICRO-MELF Outline Dimensions

Unit:mm



MICRO-MELF		
Dim	Min	Max
A	2.0	1.8
B	1.20	1.30
C	1.35	1.35

Maximum Ratings and Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless Otherwise Noted)

Characteristics	Symbol	Value	Unit
Power Dissipation, $R_{\theta JA} \leq 300^{\circ}\text{C/W}$	P_D	500	mW
Z-Current	I_Z	P_D/V_Z	mA
Thermal Resistance Junction to Ambient ⁽¹⁾	$R_{\theta JA}$	500	$^{\circ}\text{C/W}$
Forward Voltage @ $I_F=200\text{mA}$	V_F	1.5	V
Operation Junction Temperature Range	T_J	175	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 to +175	$^{\circ}\text{C}$

Note: 1. On pc board 50 mm x 50mm x 1.6mm

Electrical Characteristics

($T_A=25^{\circ}\text{C}$ unless otherwise noted, $V_F=1.5\text{ V Max.}$ @ $I_F=200\text{mA}$ for all types)

Type	V_{Znom}	I_{ZT}	for V_{ZT} and	r_{zIT}	r_{zIK} at	I_{ZK}	I_R and	I_R at	V_R	TK_{VZ}
BZM55C.	V	mA	$V^{1)}$	Ω	Ω	mA	μA	$\mu\text{A}^{2)}$	V	%/K
2V0	2.0	5	1.9~2.1	100	<600	1	<150	<300	1	-0.09~-0.06
2V2	2.2	5	2.09~2.31	100	<600	1	<150	<300	1	-0.09~-0.06
2V4	2.4	5	2.28~2.56	<85	<600	1	<50	<100	1	-0.09~-0.06
2V7	2.7	5	2.5~2.9	<85	<600	1	<10	<50	1	-0.09~-0.06
3V0	3.0	5	2.8~3.2	<85	<600	1	<4	<40	1	-0.08~-0.05
3V3	3.3	5	3.1~3.5	<85	<600	1	<2	<40	1	-0.08~-0.05
3V6	3.6	5	3.4~3.8	<85	<600	1	<2	<40	1	-0.08~-0.05
3V9	3.9	5	3.7~4.1	<85	<600	1	<2	<40	1	-0.08~-0.05
4V3	4.3	5	4.0~4.6	<75	<600	1	<1	<20	1	-0.06~-0.03
4V7	4.7	5	4.4~5.0	<60	<600	1	<0.5	<10	1	-0.05~+0.02
5V1	5.1	5	4.8~5.4	<35	<550	1	<0.1	<2	1	-0.02~+0.02
5V6	5.6	5	5.2~6.0	<25	<450	1	<0.1	<2	1	-0.05~+0.05
6V2	6.2	5	5.8~6.6	<10	<200	1	<0.1	<2	2	0.03~0.06
6V8	6.8	5	6.4~7.2	<8	<150	1	<0.1	<2	3	0.03~0.07
7V5	7.5	5	7.0~7.9	<7	<50	1	<0.1	<2	5	0.03~0.07
8V2	8.2	5	7.7~8.7	<7	<50	1	<0.1	<2	6.2	0.03~0.08
9V1	9.1	5	8.5~9.6	<10	<50	1	<0.1	<2	6.8	0.03~0.09
10	10	5	9.4~10.6	<15	<70	1	<0.1	<2	7.5	0.03~0.1
11	11	5	10.4~11.6	<20	<70	1	<0.1	<2	8.2	0.03~0.11
12	12	5	11.4~12.7	<20	<90	1	<0.1	<2	9.1	0.03~0.11
13	13	5	12.4~14.1	<26	<110	1	<0.1	<2	10	0.03~0.11
15	15	5	13.8~15.6	<30	<110	1	<0.1	<2	11	0.03~0.11
16	16	5	15.3~17.1	<40	<170	1	<0.1	<2	12	0.03~0.11
18	18	5	16.8~19.1	<50	<170	1	<0.1	<2	13	0.03~0.11
20	20	5	18.8~21.2	<55	<220	1	<0.1	<2	15	0.03~0.11
22	22	5	20.8~23.3	<55	<220	1	<0.1	<2	16	0.04~0.12
24	24	5	22.8~25.6	<80	<220	1	<0.1	<2	18	0.04~0.12
27	27	5	25.1~28.9	<80	<220	1	<0.1	<2	20	0.04~0.12
30	30	5	28~32	<80	<220	1	<0.1	<2	22	0.04~0.12
33	33	5	31~35	<80	<220	1	<0.1	<2	24	0.04~0.12
36	36	5	34~38	<80	<220	1	<0.1	<2	27	0.04~0.12
39	39	2.5	37~41	<90	<500	0.5	<0.1	<5	30	0.04~0.12
43	43	2.5	40~46	<90	<600	0.5	<0.1	<5	33	0.04~0.12
47	47	2.5	44~50	<110	<700	0.5	<0.1	<5	36	0.04~0.12
51	51	2.5	48~54	<125	<700	0.5	<0.1	<10	39	0.04~0.12
56	56	2.5	52~60	<135	<1000	0.5	<0.1	<10	43	0.04~0.12
62	62	2.5	58~66	<150	<1000	0.5	<0.1	<10	47	0.04~0.12
68	68	2.5	64~72	<200	<1000	0.5	<0.1	<10	51	0.04~0.12
75	75	2.5	70~79	<250	<1500	0.5	<0.1	<10	56	0.04~0.12
82	82	2.5	77~87	<300	<2000	0.5	<0.1	<10	62	0.04~0.12
91	91	1.0	85~96	<450	<5000	0.1	<0.1	<10	68	0.04~0.12
100	100	1.0	94~106	<450	<5000	0.1	<0.1	<10	75	0.04~0.12

¹⁾ Tighter tolerances available request:

BZM55B... $\pm 2\%$ of V_{Znom}

²⁾ at $T_J=150^{\circ}\text{C}$

Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

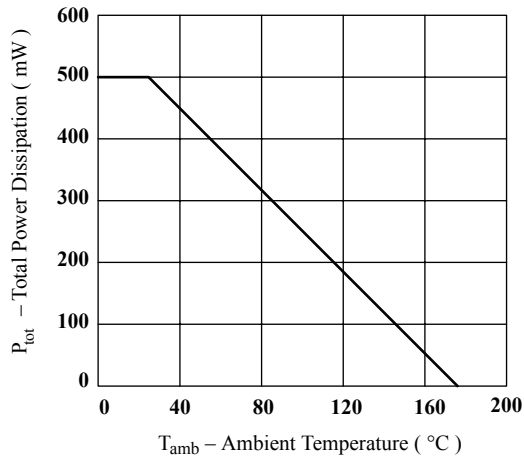


Fig.1 Total Power Dissipation vs. Ambient Temperature

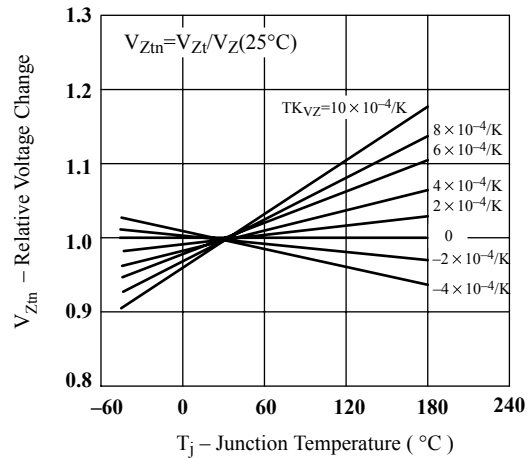


Fig.2 Typical Change of Working Voltage vs. Junction Temperature

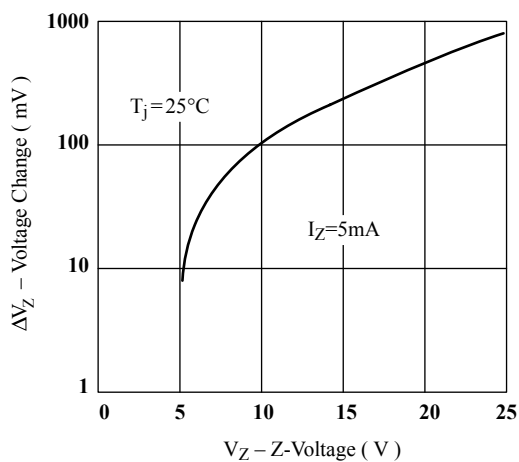


Fig.3 Typical Change of Working Voltage under Operating Conditions at $T_{\text{amb}}=25^\circ\text{C}$

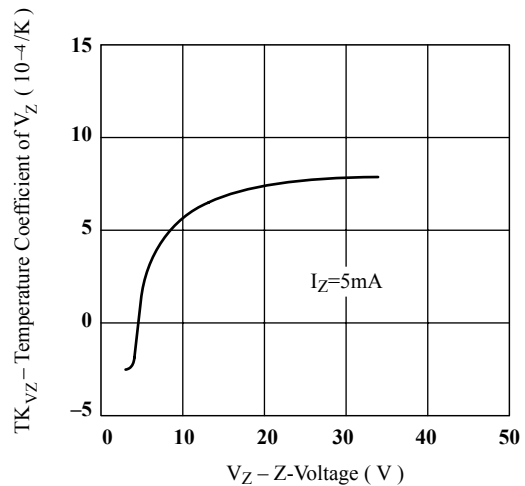


Fig.4 Temperature Coefficient of V_Z vs. Z-Voltage

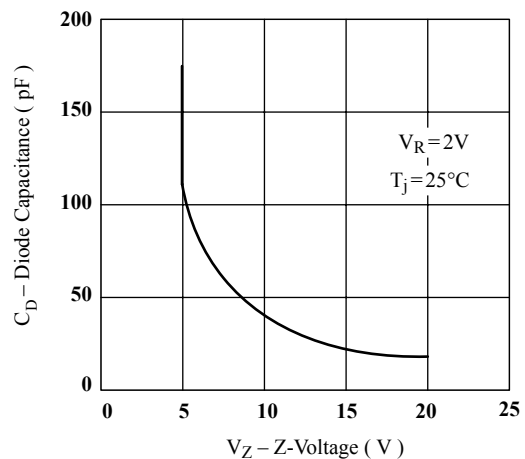


Fig.5 Diode Capacitance vs. Z-Voltage

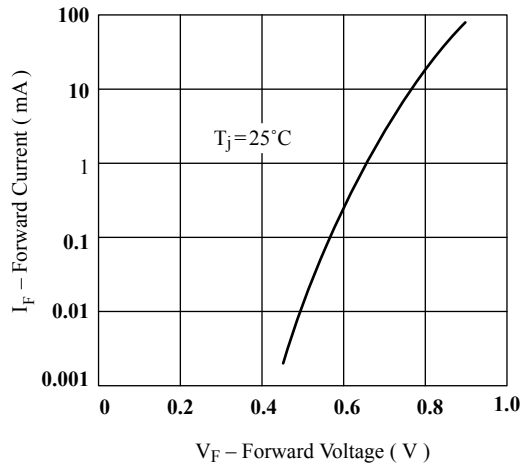


Fig.6 Forward Current vs. Forward Voltage

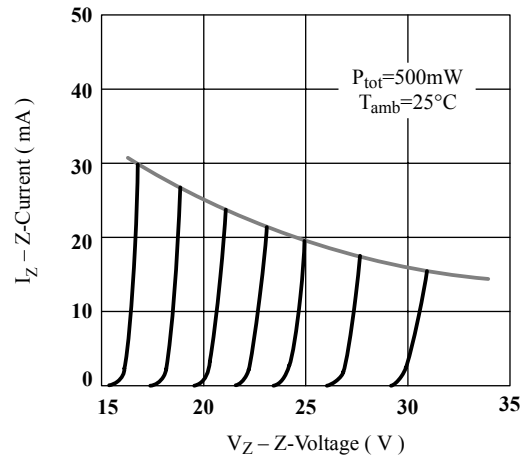


Figure 7. Z-Current vs. Z-Voltage

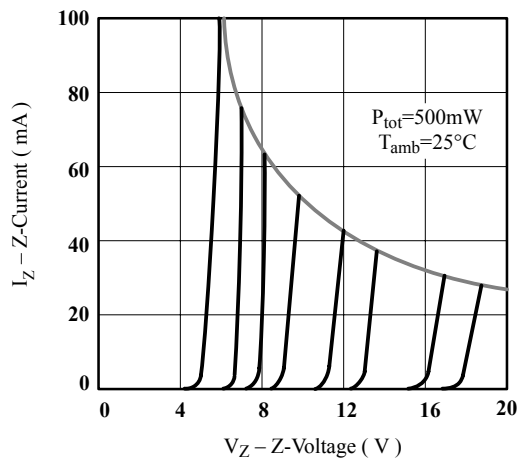


Figure 8. Z-Current vs. Z-Voltage

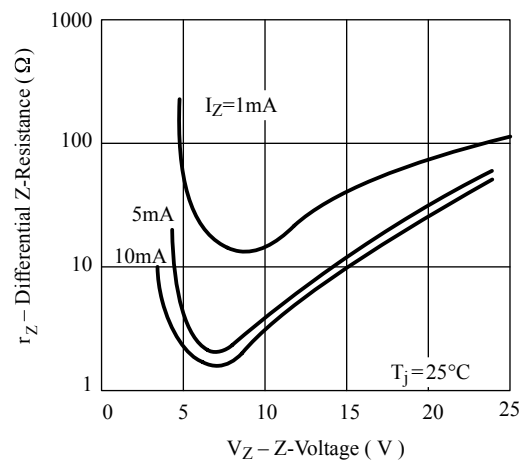


Figure 9. Differential Z-Resistance vs. Z-Voltage

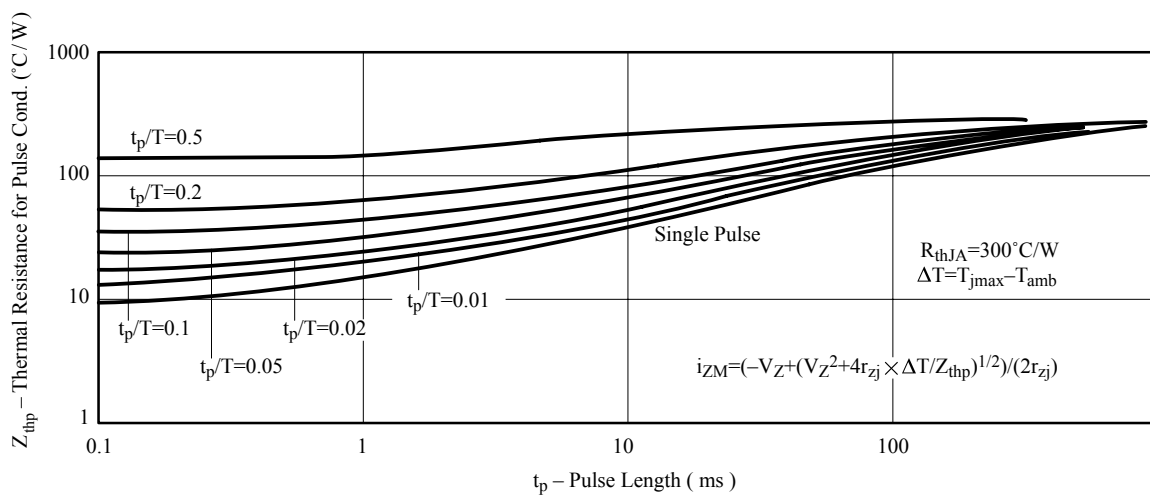


Figure 10. Thermal Response